

Link 22

Table of Contents

Chapter 1 - Link 22 Introduction

Basic Specification
Link 22 Functions
 Picture Compilation
 Command and Control
 System Information Exchange and Network Management
Link 22 Media
Link 22 Documentation

Chapter 2 - Link 22 Hardware

Introduction
 Data Link Processor
 DLP Human Machine Interface
 System Network Controller
 Media Subsystem
 Communications Security
 Signal Processing Controller
 Radios
 Time of Day
 Single/Multi Net Node

Chapter 3 - Link 22 TDMA

Link 22 TDMA
 Assignment Slot
 Minislots
Net Cycle Time/Operational Net Cycle Structure
 ONCS Construction
 Interrupt (Injection) Slot
 Late Network Entry Slot
Link 22 TDMA Modes
 TDMA
 Dynamic TDMA (DTDMA)
Time of Day

Chapter 4 - Link 22 Networks

Network Structure
Super Network
 Mission area Subnetwork (MASN)
Addressing Techniques
 Relay
Link Reception Quality

Chapter 5 - Link 22 Messages

J-Series Family
 F and FJ-Series messages
 Message Construction
Message Transmission

Stacked Fields
Message Priority
Priority Interrupt Status
Destination Address
Receipt/Compliance (R/C)
Reception Reliability
Perishability
Originator's Address
Throughput
Data Rate Compression
Message Transmission Protocols

Chapter 6 - Link 22 Functional Areas & MinImp

Introduction
 Participant Location and Identification
 Surveillance
 Reference Points Lines and Areas
 Emergency Points
 Land Tracks/Points
 Exercise Tracks
 Simulated data
 Subsurface Track reporting
 Space and Ballistic Missile Reporting
Information Management
 FJ7.0 – FJ7.7
Electronic Warfare
 Reporting
 Lines of Bearing (LOB)
 Fixes
 Areas of Probability (AOP)
 Passively Derived Tracks
 Parametric Data Reporting
 Control and Coordination
 Track/Point Amplification
 Threat warning
Minimum Implementation
 Functional MinImp
 Related Function
 Message/Word/Data element and Data Item
Implementation

Chapter 7 - Link 22 Planning

Introduction
 Strategic Planning Phase
 Operational Planning Phase
 Tactical Planning Phase
 Link 22 OPTASK Link
 Super Network Parameters

NILE Network Parameters
MASN Network Parameters
NILE Unit Parameters

Chapter 8 - Link 22 Operations Reporting

Initialising a Network
NILE Unit Initialisation
Network Level Initialisation
Short Network Initialisation
Network Initialisation with Channel Probing
Super Network Initialisation
Late Network Entry
Inactive Join (IJ)
Active Join
Silent Join
Network Reinitialisation
Network Reconfiguration
Leaving a Network
Network/Super Network Shutdown

Chapter 9 - Link 22 Track Exchange & Weapons Coord and Status Reporting

Link 22 Track Numbering
Track Data Reporting Rates
Standard Update Rate
High Update Rate
Slow Update Reporting Rate
Track Quality
Reporting Responsibility
Correlation
Filters
Weapons Coord & Status Reporting
Command Messages
Air Procedures
Current CU Requests Handover
New CU Requests Takeover Control
Link 22 Equipped Aircraft Requests Control
Handover Initiated by Receipt of Command Message
Cancellation of handover
Friendly Status Reporting
Periodic Updates
Platform and System Status Reports
Airfield Status
Reporting of Simulated Data
Engagement Status Reporting
Controlling Unit Reporting
Pairing Reports

Chapter 10 - Link 22 Network Management

Super Network Management
Super Network Reconfiguration Planning
Super Network Frequency Management
Super Network Composition Changes
Establishment of a New Link 22 Network
Super Network Directory Maintenance
MASN Management
Radio Silence
Network in Radio Silence
NUs in Radio Silence
Crypto Key Management
Network Management Functions
Network Reinitialisation
Media Parameter Change
Short Reinitialisation
Reinitialisation with Probing
Network Reconfiguration
DLP Specifies ONCS
SNC Specified ONCS
DTDMA Change
NILE Unit Management Functions
Change Radio Settings
Congestion Management
Congestion Assessment
Performance Monitoring
Fault Management
Role Takeover

Chapter 11 - Data Forwarding

Definitions
Forwarding Between Link 22 and Link 16
General Rules
Message Requiring R/C
Track Numbering
Active/Inactive Status
Forwarding of EW Data
Data Purging
Forwarding Between Link 22 and Link 11
Track Numbering
Message Translation

Appendix A - Link 22 Message Catalogue

List of Acronyms

Glossary

Index